

WHAT IS CLAIMED IS:

- 1 1. A method for inducing apoptosis in cells of a mammal by administering a
2 therapeutically effective amount of an agent capable of antagonizing the
3 interaction between an onconeural antigen and an apoptosis-inducing protein.
- 1 2. The method of claim 1 wherein said cells are dysproliferative cells.
- 1 3. The method of claim 2 wherein said dysproliferative cells are cancer cells.
- 1 4. The method of claim 3 wherein said cancer is a gynecological cancer.
- 1 5. The method of claim 4 wherein said gynecological cancer is ovarian or breast
2 cancer.
- 1 6. The method of claim 1 wherein said cells are normal cells.
- 1 7. The method of claim 6 wherein said normal cells are germ cells.
- 1 8. The method of claim 1 wherein said onconeural antigen is cdr2, cdr3, Nova,
2 Hu, or amphiphysin.

- 1 9. The method of claim 1 wherein said onconeural antigen is cdr2.
- 1 10. The method of claim 1 wherein said apoptosis-inducing protein is a
2 transcription factor.
- 1 11. The method of claim 10 wherein said transcription factor is N-Myc or C-myc.
- 1 12. The method of claim 1 wherein said agent is an antibody or antigen-binding
2 fragment thereof.
- 1 13. The method of claim 12 wherein said antibody or antigen-binding fragment
2 thereof binds to said onconeural antigen.
- 1 14. The method of claim 13 wherein said onconeural antigen is cdr2, cdr3, Nova,
2 Hu, or amphiphysin.
- 1 15. The method of claim 13 wherein said antibody or antigen-binding fragment
2 thereof binds to cdr2.
- 1 16. The method of claim 1 wherein said agent is an HLZ region-binding molecule.
- 1 17. The method of claim 16 wherein said agent is an HLZ region-binding
2 polypeptide fragment of an onconeural antigen.

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- 1 18. The method of claim 17 wherein said agent is an HLZ region-binding
2 fragment of cdr2.
- 1 19. The method of claim 18 wherein said agent is a polypeptide comprising amino
2 acids 16 through 192 of cdr2 (SEQ ID NO:1) or amino acids 65 through 140
3 of cdr2 (SEQ ID NO:2).
- 1 20. A method for treating a mammal suffering from a dysproliferative disease by
2 administering a therapeutically effective amount of an agent capable of
3 antagonizing the interaction between an onconeural antigen and an apoptosis-
4 inducing protein.
- 1 21. The method of claim 20 wherein said dysproliferative disease is cancer.
- 1 22. The method of claim 21 wherein said cancer is a gynecological cancer.
- 1 23. The method of claim 22 wherein said gynecological cancer is ovarian or breast
2 cancer.
- 1 24. The method of claim 20 wherein said onconeural antigen is cdr2, cdr3, Nova,
2 Hu, or amphiphysin.

- 1 25. The method of claim 20 wherein said onconeural antigen is cdr2.
- 1 26. The method of claim 20 wherein said apoptosis-inducing protein is a
2 transcription factor.
- 1 27. The method of claim 26 wherein said transcription factor is N-Myc or C-myc.
- 1 28. The method of claim 20 wherein said agent is an antibody or antigen-binding
2 fragment thereof.
- 1 29. The method of claim 28 wherein said antibody or antigen-binding fragment
2 thereof binds to said onconeural antigen.
- 1 30. The method of claim 29 wherein said onconeural antigen is cdr2, cdr3, Nova,
2 Hu, or amphiphysin.
- 1 31. The method of claim 28 wherein said antibody or antigen-binding fragment
2 thereof binds to cdr2.
- 1 32. The method of claim 20 wherein said agent is an HLZ region-binding
2 molecule.
- 1 33. The method of claim 32 wherein said agent is an HLZ region binding

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2 polypeptide fragment of an onconeural antigen.

1 34. The method of claim 33 wherein said agent is an HLZ region-binding
2 fragment of cdr2.

1 35. The method of claim 34 wherein said agent is a polypeptide comprising amino
2 acids 16 through 192 of cdr2 (SEQ ID NO:1) or amino acids 65 through 140
3 of cdr2 (SEQ ID NO:2).

1 36. A method for identifying an agent capable of promoting apoptosis by
2 antagonizing the interaction between an onconeural antigen and an apoptosis-
3 inducing protein comprising the steps of

4 i) preparing a mixture comprising an onconeural antigen or a
5 fragment thereof and an apoptosis-inducing protein or a
6 fragment thereof, said mixture being part of a cell-free or cell-
7 based test system;

8 ii) contacting said mixture with an agent being evaluated for its
9 ability to antagonize the interaction between said onconeural
10 antigen and said apoptosis-inducing protein;

11 iii) evaluating the extent of interference by said agent of the
12 interaction between said onconeural antigen and said apoptosis-
13 inducing protein; and

14 iv) determining from said extent of interference the capability of

1 37. The method of claim 36 wherein one or both of said onconeural antigen or a
2 fragment thereof and said apoptosis-inducing protein or a fragment thereof
3 additionally includes a detectable polypeptide sequence.

1 38. The method of claim 36 wherein said interaction is determined by assessing
2 the decrease caused by said agent in the extent of binding of said onconeural
3 antigen or a fragment thereof with said apoptosis-inducing protein or a
4 fragment thereof.

1 39. The method of claim 38 wherein said extent of binding is determined using
2 electrophoretic means.

1 40. The method of claim 38 wherein one of said onconeural antigen or apoptosis-
2 inducing protein or fragments thereof is immobilized during the determination
3 of said extent of interference.

1 41. The method of claim 38 wherein the extent of binding is determined in a GST
2 pull-down assay.

1 42. The method of claim 38 wherein said extent of binding is determined in a
2 coprecipitation assay.

- 1 43. The method of claim 38 wherein said extent of interference is determined by
2 assessing the extent of transcriptional activity by said transcription factor.
- 1 44. The method of claim 36 wherein said extent of interference is determined
2 using a whole cell assay and employing immunohistochemical means for
3 quantitating the level of transcription factor in the subcellular compartments.
- 1 45. The method of claim 36 wherein said extent of interference is measured by
2 quantitating cell death in a whole cell assay.
- 1 46. The method of claim 36 wherein said onconeural antigen is cdr2, cdr3, Nova,
2 Hu, or amphiphycin.
- 1 47. The method of claim 36 wherein said onconeural antigen is cdr2.
- 1 48. The method of claim 36 wherein said apoptosis-inducing protein is a
2 transcription factor
- 1 49. The method of claim 48 wherein said transcription factor is N-Myc or C-myc.